FOREIGN AGRICULTURE

September 24, 1973

U.S. Cotton Exports at High Level

Foreign Agricultural Service
U.S. DEPARTMENT OF AGRICULTURE

FOREIGN AGRICULTURE
VOL. XI No. 39 Sept. 24, 1973

In this issue:

2 Strong World Demand Pushes U.S. Cotton Exports to High Level By H. Reiter Webb, Jr.
4 Maid of Cotton Scores Success in Tour of World Markets for U.S. Cotton
5 U.S. Soybean Sales Continue Headlong Climb in 1972-73 By Ellen V. McGuire
6 Peru Seeks To Reduce Imports of Livestock Products By Paul Ferree
8 U.S. Farm Sales to West Germany Near Billion-Dollar Mark But Future Is Uncertain
10 Japan Develops New Protein Sources for Feed Rations By Bruce L. Greenshields
11 Yugoslav Agri-Leaders Study U.S. Farm Production Techniques
13 Crops and Markets

This week's cover:

Shown ready for harvest, U.S. cotton is moving in large quantities to export markets this season, responding to a number of factors that have escalated foreign demand. An analysis of U.S. exports in relation to the world cotton situation begins this page.

Earl L. Butz, Secretary of Agriculture

Carroll G. Brunthaver, Assistant Secretary for International Affairs and Commodity Programs

David L. Hume, Administrator, Foreign Agricultural Service

Editorial Staff:
Kay Owsley Patterson, Editor
Patricia O. MacPherson, Mary Frances Owsley, Marcellus P. Murphy, Isabel A. Smith.

Advisory Board:
Kenneth F. McDaniel, Chairman; Gordon O. Fraser, Elmer W. Hallowell, William Horbaly, J. Don Looper, Larry B. Marton, Richard C. McArdle, Wayne W. Sharp.

Use of funds for printing *Foreign Agriculture* has been approved by the Director of the Bureau of the Budget (May 1, 1969). Yearly subscription rate: $20.00 domestic, $25.00 foreign; single copies 45 cents. Order from Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Contents of this magazine may be reprinted freely. Use of commercial and trade names does not imply approval or constitute endorsement by USDA or Foreign Agricultural Service.

Strong World Demand Pushes U.S. Cotton Exports to High Level

By H. REITER WEBB, JR.
Cotton Division
Foreign Agricultural Service

ACTIVE TRADING and surging prices marked the early weeks of the 1973-74 cotton marketing season (August-July), as cotton-importing countries made purchases or purchase inquiries on substantial portions of 1973-74 supplies. International and U.S. cotton prices, which in dollar terms more than doubled during the past season, reached highest levels since the U.S. Civil War.

By early September, foreign buyers had already purchased a large proportion of anticipated exportable supplies from the U.S. 1973 crop and were actively buying for 1974 and even 1975. Several important producing countries announced partial restrictions on cotton exports while evaluating domestic requirements. Some other exporting countries were pressing for renegotiation of existing contracts because of devaluation of the dollar and related currencies and substantial price rises in recent months.

In spite of these market features, international cotton supplies are likely to be slightly more abundant in the 1973-74 marketing year, compared with last season, largely because of higher opening stocks in foreign non-Communist importing countries—major markets for U.S. cotton.

At 58 million bales, global consumption of cotton is expected to almost equal the level of production. The world crop could drop about 1 million bales this season, owing to weather-reduced harvests in some countries and little change in foreign cotton acreage, despite last season's sharply higher prices.

Soaring demand for cotton worldwide suggests that international trade in 1973-74 will again be at a very high level—between 20-21 million bales—but down somewhat from the alltime record of 21.2 million bales traded last season. Swelling demand, however, could push U.S. exports to nearly 6 million bales in 1973-74.

World cotton stocks on August 1, 1973, were estimated at 22.2 million bales, an increase of 1.5 million from the previous year, but still fifth lowest in a decade. Holdings in individual countries, however, diverged sharply.

COTTON: PRODUCTION, UNITED STATES AND FOREIGN
[1,000 bales 480 lb. net]

Country and region	1971-72	1972-73[1]	1973-74[2]
United States	10,477	13,702	12,938
Foreign non-Communist			
Central America[3]	1,155	1,215	1,405
Mexico	1,710	1,790	1,400
Brazil	3,100	3,000	3,000
Colombia	585	615	600
Greece	530	620	600
Egypt	2,340	2,400	2,400
Sudan	1,090	900	1,100
Uganda	345	325	300
Tanzania	300	300	300
India	5,900	5,150	5,400
Iran	680	950	920
Pakistan	3,250	3,225	2,600
Syria	725	735	700
Turkey	2,400	2,490	2,400
Other	3,790	4,084	4,035
Total	27,900	27,799	27,160
Communist			
USSR	11,100	11,200	11,200
People's Republic of China	7,600	6,500	7,000
Other	128	108	100
Total	18,828	17,808	18,300
Foreign total	46,728	45,616	45,460
World total	57,205	59,329	58,250

[1] Estimate [2] Forecast [3] Includes El Salvador, Guatemala, Honduras, and Nicaragua.

Cotton picker harvests U.S. crop.

At 3.9 million bales, stocks in the United States—usually the largest holder—were up 500,000 bales from the 1972 level, but still very low compared with other recent years.

On the other hand, foreign cotton stocks were estimated at 18.3 million bales—up 1 million from 1972 and the highest in history. The gain is mostly the result of imports from the United States, since foreign consumption generally has outpaced production in recent years.

In both Communist and foreign non-Communist exporting countries, stocks were at or near record levels. At 8 million bales, stocks in foreign non-Communist importing countries—principal markets for U.S. cotton—were a full million bales above the previous record in 1972.

High attention is focused on the size of the 1973 U.S. cotton crop. As of Sept. 1, with a yield of 502 pounds per harvested acre in prospect, the U.S. crop (including imports and city crop) is estimated at 13 million bales—a drop of about 700,000 bales from last year's harvest.

World production is slated to decline from last season's record, and could total 58.5 million bales, compared with 59.3 last season.

At 45.5 million bales, foreign cotton production will approximate the 1972-73 level. Output in foreign non-Communist countries could total only 27.2 million bales, down 600,000 from last year, largely because of the recent floods in Pakistan that sharply reduced production prospects there.

Production in Communist countries is expected to reach 18.3 million bales, an increase of 500,000 bales from last year, owing entirely to a partial recovery from the poor 1972-73 crop in the People's Republic of China. Foreign cotton acreage has apparently changed very little from 1972-73, notwithstanding high prices at planting time in most foreign countries.

COTTON: CONSUMPTION, UNITED STATES AND FOREIGN
[1,000 bales 480 lb. net]

Country and region	1971-72	1972-73[1]	1973-74[2]
United States	8,178	7,800	7,300
Foreign non-Communist			
Net Exporting Total	8,683	9,302	9,700
Net importing			
Canada	335	325	360
France	1,080	1,070	1,100
West Germany	1,050	1,075	1,075
Italy	920	1,000	1,050
United Kingdom	635	650	600
Japan	3,370	3,500	3,500
Hong Kong	675	700	750
India	5,550	5,400	5,600
Korea	540	600	650
Taiwan	610	650	700
Indonesia	225	275	350
Other	4,100	4,287	4,465
Total	19,090	19,532	20,200
Communist			
USSR	8,800	8,900	9,200
Other	11,230	11,230	11,600
Total	20,030	20,130	20,800
Foreign total	47,803	48,964	50,700
World total	55,981	56,764	58,000

[1] Estimate [2] Forecast

Total world cotton supplies, however, are forecast to gain by 700,000 bales to 80.7 million in 1973-74, since higher beginning stocks will compensate for overall production declines. At 16.9 million bales, the supply of cotton in the United States will be 200,000 bales less than last season, since lower production will more than offset the stock advance.

The stock gain of 1 million bales in foreign countries will probably mean a supply increase of 900,000 bales outside the United States.

Cotton consumption in the United States during 1973-74 is likely to be between 7-7.5 million bales, compared with 7.8 million in the previous year. The decline is partly the result of substantial price increases, as well as the cotton textile industry's uncertainty about price controls on cotton products.

Foreign consumption, however, appears headed toward a new record and could increase by 2 million bales to an alltime high of 50.7 million bales. Foreign use of cotton has risen every year for more than a decade, and appears to be moving up more rapidly than during the earlier part of the period. (See *Foreign Agriculture*, August 13, 1973.)

Until recently, most of the increase in foreign cotton consumption took place in Communist countries because of larger Russian crops and in foreign non-Communist exporting countries and Asian markets, which increased cotton textile exports. However, mill consumption in Western Europe mounted in 1972-73 for the first time in several years and is expected to move up again in 1973-74.

To better evaluate raw cotton needs, textile producing countries sometimes express their stock holdings in terms of monthly use by mills. Thus, world stocks at the opening of the 1973-74 season were equivalent to 4.6 months of consumption, slightly above the 4.4 months of consumption held at the beginning of 1972-73 and continuing the relatively low level of recent years. Usually world stocks represent about 5 to 6 months' supply.

Strong demand for cotton in foreign importing countries should power U.S. exports in 1973-74 to another very high level. As of August 10, reports of undelivered export sales showed that close to 6 million bales had been registered for export by U.S. shippers. According to USDA's export registration figures, however, some sales to Japan may have been inadvertently duplicated. Pending reso-

Continued on page 12

Maid of Cotton Scores Success in Tour of World Markets For U.S. Cotton

THE FOREIGN TOUR of the Maid of Cotton, sponsored by Cotton Council International and the U.S. Department of Agriculture again proved a popular and worthwhile way to expand markets for U.S. cotton.

Debra Ploch of Dallas, Texas, the 1973 Maid of Cotton, was the U.S. cotton industry's 35th Goodwill Ambassadress. The pretty Maid of Cotton fulfilled a grueling routine of press conferences, benefit fashion shows, television and radio appearances, and store promotions in Canada, Thailand, Hong Kong, Japan, Korea, and Taiwan —all important customers of U.S. cotton. Her warm and enthusiastic performance furthered interest in U.S. cotton in these Far Eastern countries and Canada, which together represent over 60 percent of the export market for U.S. cotton and where potential is good.

Preparation for her foreign tour included several weeks of studying cotton production, utilization, and research.

Then, in February and March 1973, she traveled to Quebec City and Montreal under the sponsorship of the Canadian Cotton Council. The department store she visited in Quebec City saw fabric sales increase by over 20 percent as a result of her appearances.

From mid-March through April, the Maid toured the five Far Eastern countries. In Thailand, wearing an all-cotton Thai costume, she appeared in a benefit fashion show sponsored by Queen Ranbhai Barni. In Chiangmai, Thailand, a standing-room-only audience watched a fashion show based almost entirely on use of unbleached gray goods adeptly designed and trimmed for appeal to the average citizen of the city as well as to the style-conscious upper class.

In Hong Kong, the Maid demonstrated cotton's versatile use in fashions ranging from daytime sports and casual wear to high fashion evening wear. Shows were held in clubs, stores, and schools, giving U.S. cotton wide exposure. The Maid also appeared on TV talk shows, as well as meeting with executives of the spinning and weaving industries.

In Japan, she followed a similar schedule and modeled for a 30-page feature in *An-An*, a leading fashion magazine.

During her last show in Japan, the Maid modeled an elaborate kimono, evoking a warm response from the audience. Meeting similar success, appearances in Korea and Taiwan were geared to the culture and market potential of each country.

U.S. Maid of Cotton is interviewed, left, on arrival at Taipei, Taiwan. Below, Maid models in Hong Kong fashion show.

U.S. Soybean Sales Continue Headlong Climb in 1972-73

By ELLEN V. McGUIRE
Fats and Oils Division
Foreign Agricultural Service

IN SPITE OF prices that sailed virtually out of sight, exploding world demand pushed the volume of U.S. soybean exports in the 10 months September-June, 1972-73, higher than that of any previous full soybean marketing year.

Soybean meal exports in October-June also nudged record levels, while cottonseed oil shipments—almost all to commercial markets—zoomed 37 percent above the same 9 months last season. Moving more slowly were soybean oil exports, which slipped almost a quarter below last year's level because of a cutback in Public Law 480 shipments.

Responding to strong demand from importing countries, 454.8 million bushels of U.S. soybeans moved to world markets between September and June. This was an impressive 24 percent, or 89.1 million bushels, more than through-June exports of the previous marketing year.

A propitious trend during these months has been the upswing in exports to Europe, spearheaded by European Community (EC) purchases. To all-Europe, U.S. shipments jumped by 34 percent to total 283.7 million bushels, with more than 60 percent moving to the original six EC member countries.

Community buyers, taking a record 177.8 million bushels, accounted for two-fifths of all U.S. soybeans exported in the first 10 months of the marketing year. Sales to the Netherlands were particularly brisk, with heavier-than-usual volumes also moving to West Germany, Italy, and Belgium-Luxembourg.

Other European countries received a total of 105.9 million bushels, led by the Soviet Union's 31.4-million-bushel purchases and larger shipments to Denmark, the United Kingdom, and Poland.

Japan ended the September-June period by taking more soybeans than in all of 1971-72. Exports to Japan, still top U.S. soybean market, reached a record 110 million bushels by June —18.5 million bushels more than the same months last season.

But the increase—3.3 million bushels more than all of 1971-72—is not quite as impressive as it appears. Last season, a substantial quantity of soybeans headed for Japan were transshipped through Canada and recorded as a Canadian purchase. This season, soybeans transshipped through Canada to unknown destinations were reported separately. Thus, the growth in U.S. sales to Japan, while still considerable, is less noteworthy than export figures suggest.

Largest buyer of U.S. soybean oil in October-June was the People's Republic of China, which took 135 million pounds to remedy a crop shortfall that squeezed both soybean and oil supplies. Other main purchasers were Yugoslavia, Pakistan, Iran, India, Peru, and Israel. With the PRC, these six countries accounted for 70 percent of all U.S. soybean oil shipped.

Nevertheless, total U.S. soybean oil exports tumbled 24 percent below last season's sales for the same 9 months, and at 864 million pounds were far behind last season's 1.13 billion pounds. Diminished movement under Public Law 480 programs caused the decline; concessional sales sledded from a previous 590 million pounds to only about 290 million. Dollar sales to commercial markets, however, eased upward to total 574 million pounds, from the 540 million exported through June a year ago.

A record sale of cottonseed oil to Egypt pushed total U.S. exports in October-June to 476 million pounds—up 129 million over these months of 1971-72. The 197-million-pound Egyptian purchase accounted for about 58 percent of the U.S. export gain. Other larger purchasers were Venezuela, Japan, Mexico, Poland, and South Africa. Exports to these countries, the EC, Sweden, and Iran accounted for over 90 percent of U.S. exports.

Important gains were registered for U.S. oilcake and meal exports in October-June. Soybean meal moved in larger quantities, as did cottonseed, linseed, and other cakes and meals. October-June totals were 4.34 million tons, 41 percent more than last season's comparable months.

European countries and Japan were star markets for U.S. soybean meal. Exports to Europe swelled to 3.49 million tons, compared with last season's 2.52 million. Feed-hungry livestock industries in EC countries received over 54 percent of all U.S. soybean meal exports, with top importing honors going to West Germany, France, and Italy—which together boosted the EC total to 2.18 million tons.

East European countries also dramatically increased purchases, taking some 20 percent of all U.S. soybean meal exports. Exports to Eastern Europe exploded to 806,000 tons, almost triple the 281,000 tons in October-June a year ago. Leading recipient was Poland, which imported 316,000 tons of U.S. meal, compared with a comparatively meager 51,000 tons the previous season. Exports to Yugoslavia, Czechoslovakia, Romania, and Hungary also climbed dynamically.

In a departure from usual purchasing patterns, Japan took a record 237,000 tons of U.S. soybean meal this season to become the fifth largest U.S. customer. Previously, Japan had filled soybean meal needs by crushing U.S. soybeans; meal imports averaged only 33,000 tons during marketing years 1967-71.

OF OVERWHELMING interest to U.S. producers and foreign purchasers—as well as livestock interests here and abroad—were the dramatic price rises for soybeans, cottonseed, and related oils and meals during the marketing season. Average U.S. soybean prices in June soared to an unprecedented peak of $10.84 per bushel. Soybean meal prices in June mushroomed to average $412.50 a ton, and soybean oil and cottonseed oil advanced to an average 20 cents per pound.

Underlying the burgeoning prices was a combination of market forces, including record world demand, shortage of peanut meal and fishmeal in other exporting countries, and sharply reduced U.S. supplies of soybeans and meal in the latter months of the 1972-73 season. Despite expanding U.S. production, large exports to the Soviet Union in 1972 and 1973 diverted supplies from traditional markets.

As a result of these situations, the

Continued on page 12

Peru Seeks To Reduce Imports of Livestock Products

By PAUL FERREE
U.S. Agricultural Attaché
Lima

PERUVIANS LIKE to eat meat, and usually when speaking of meat, they mean beef. For this reason, introduction of a "veda" of 15 beefless days per month in Lima last year to encourage consumption of other meats and fish has had significant impact. It drew attention to generally low consumption levels of all forms of animal protein, including milk and dairy products, and to ever-increasing deficits of these products that must be filled by imports. The "veda" also won support for various Government measures designed to augment domestic protein availability and gradually reduce dependence on imports.

The 15-day beefless period each month for Lima has been so effective in forcing changes in dietary habits that it will be applied to the entire coastal area from now on. Poultry meat and pork seem to have gained most during the veda but, as the Government hoped, people are now eating more and greater varieties of fish.

Peru has long had a deficit of meat and milk due to natural geographic and climatic limitations, as well as to its high proportion of city population. Over 50 percent of the population is considered urban, with well over 25 percent in the capital. Meanwhile, population grows at a rate of 3 percent, urban proportion continues to increase, and purchasing power is expanding. As a result, annual consumption of meat is believed to be rising by 5.5 percent and that of dairy products by over 6 percent.

Domestic production of meat and dairy products has increased very slowly, if at all, in recent years. Currently, nearly 20 percent of total meat consumption and one-third of dairy product consumption must be imported.

Imports of live animals for slaughter, beef, mutton, and offals amounted to about $50 million in 1972 but should decline to around $30 million this year.

Principal suppliers of live animals for slaughter in 1972 were Colombia and Ecuador. Beef came from Colombia, Argentina, Ecuador, and Bolivia; mutton from New Zealand and Argentina; and offals from the United States, Argentina, Uruguay, and Ecuador.

For powered milk, anyhydrous fat, butter, and cheese, Peru spent some $35 million for imports in 1972 and will require $38-$40 million in 1973. Most dairy purchases are from New Zealand on Government-to-Government sales. Cheese imports are limited to Latin American Free Trade Area (LAFTA) countries.

EVEN WITH SUCH large import expenditures, per capita consumption of meat and dairy products remains below desired standards. Current annual consumption of all meats is only about 44 pounds per capita, about 15.4 in beef. Annual consumption of all dairy products is equivalent to less than 63.4 quarts of milk per capita. Peruvians are gradually increasing intake of these animal protein foods, however, and would probably buy more at current prices even now if it were not for occasional shortages.

In the face of this situation, Government planners are trying to improve diets, by increasing supply of protein foods, to control prices at both producer and consumer levels, and to regulate expenditures of foreign exchange.

The complex meat problem was recently studied by a Ministry of Agriculture Commission, with some assistance from the United States Agency for International Development (AID). A lengthy report has been released, which outlines major problems and offers possible solutions, including review and adjustment of marketing and price policy to encourage production.

As a first step, in early May the Government granted poultry price increases and adjusted price schedules for mixed feed to foster quality improvement. Further price liberalization is reported under study.

For the immediate future, the Government plans to encourage increased poultry and swine production in the coastal zone. Cattle feeding operations, using largely byproducts from the sugar and cotton industries, are to increase production by marketing larger animals. The Government will facilitate imports of breeding stock, equipment, and other requisites.

Feed supplies are to be increased substantially, particularly in response to growth in poultry and swine feeding. Following imports of nearly 200,000 metric tons of feedgrains in 1972, corn and sorghum imports this year may well exceed 300,000 metric tons.

In 1972, imports of U.S. origin included 111,000 metric tons of corn, 41,000 metric tons of sorghum, and 35,000 metric tons of feed wheat. Canada supplied 12,000 metric tons of mill screenings.

Recent increases in support prices for corn and sorghum to $108.50 and $100 per metric ton, respectively, are expected to encourage domestic grain production.

Imports of slaughter cattle and beef are to be regulated, and greater emphasis put on consumption of other kinds of meat as well as fish.

Major medium-term policy goals are: Sheep and cattle development in the mountain areas; expansion and improvement of dairy industry; and diversification of Agrarian Reform Cooperatives and Communities into livestock production activities.

Cooperatives such as those now operating former sugar estates, or similar one-crop enterprises, purchased substantial amounts of breeding stock and equipment for swine, poultry, and sheep production in 1972. Some 39,000 sheep have just arrived from Australia, New Zealand, and Argentina. The next step is to purchase several thousand Holstein cattle to revitalize the lagging dairy industry.

In another phase of the medium-term dairy program, a World Food Program project has built three feed plants, based on a 5-year grant of 21,000 metric tons of sorghum grain. Further bilateral assistance is sponsoring construction of five new milk pasteurizing and processing centers. The dairy industry will also benefit from a 5-year intensified foot-and-mouth disease control program.

Long-term expansion can only be made in the jungle area east of the Andes because of limits to further development in coastal and mountain areas. Plans call mainly for raising Zebu and other rugged-type cattle on pastures to be planted on cleared forest land. Development is slow, owing to need for roads and supporting infrastructure.

Colonists from the coast or mountains often find the jungle very inhospitable and only about half will stay. Those who remain work very hard, and large areas for pastures are slowly being carved out of the jungle.

Mechanical equipment is often almost useless, except for removing tree stumps. Reportedly, 50 men can clear about 2.5 acres a day at a cost equivalent to $40-$50 per acre—about half the cost of clearing by such machines as were used in another operation in the Amazon Watershed of Peru.

In 1972, 4,000 imported Zebu heifers and bulls were moved into newly cleared areas of jungle, with another 4,000 expected to arrive this year. Also, most of the 30,000 cattle imported for the flood-generated pastures of the North will probably eventually be brought to the jungle. (See *Foreign Agriculture*, July 3, 1972.) These cattle have reportedly done well on pastures that benefited from significant rainfall in the region. Some 2,000 head have already been moved to newly cleared jungle lands by freight transport planes.

Long-term plans call for annual clearing and planting of about 24,710 acres and introduction of 4,000-5,000 head of Zebu or Brahman cattle each year through 1982. The Government expects to set up 195 cooperative livestock colonies and to support these from about 14 Government-operated breeding stations in the area. Also planned are 12 slaughter houses with refrigeration facilities. Introduction of swine and dairy production centers is also being considered.

To some extent, Peru's imports of beef breeding cattle and dairy stock, as well as purchases of greater supplies of feedgrains needed, constitute a trade-off against otherwise greater future imports of slaughter animals, meat, and dairy products. There is little chance of substantially replacing these imports at present, but the Government hopes even short- and medium-term plans will slow rate of import expansion. Then, when longer-term jungle development reaches significant proportions, perhaps sizable reductions can be made in imports of meat and other protein products.

To reduce meat import needs and augment domestic availability, Peru is pursuing a long-term program of producing Zebu and other rugged-type cattle on pastures cleared from jungle land east of the Andes. Imported Santa Gertrudis (left), Zebu (above), and crossbred cattle (below) are reportedly thriving on abundant pasture in the rainfall-rich area.

U.S. Farm Sales to West Germany Near the Billion-Dollar Mark But Future Is Uncertain

SURGING DEMAND AT a time of limited world supplies moved West Germany in fiscal 1973 close to becoming the United States first billion-dollar market in Western Europe—and it may have exceeded that milestone when transshipments are taken into account.

Capping a most unusual agricultural trade year, this achievement reverses stagnation in U.S. agricultural sales to West Germany in recent past years. But whether it will end a long-term decline in U.S. share of that market is another question, complicated by West Germany's commitment to expand trade with other members of the European Community (EC).

In recent past years, this commitment, sealed with implementation of the EC's Common Agricultural Policy (CAP), spawned a steady loss of U.S. status in the big German market—the world's largest farm market and leading U.S. outlet behind Japan (after adjustment for transshipments).

The protectionist measures of the CAP that have encouraged EC farm production and internal trade continue in effect, with new measures still being added. Moreover, since the Community is now enlarged to include the United Kingdom, Ireland, and Denmark, there is room for still more extensive trade changes in favor of EC members.

To these forces are added the intensive promotional efforts going on in the market from competitive suppliers.

Preliminary tallies of U.S. agricultural exports to West Germany (after transshipments to and from the country are taken into account) in fiscal 1973 are around the $1-billion mark for the first time on record. And direct U.S. shipments to Germany hit an estimated $892 million last year for a 47-percent gain from fiscal 1972.

This expanded U.S. farm trade reflects reduced supplies worldwide of many agricultural products, plus acceleration in German demand for items like cotton, sales of which soared 117 percent in fiscal 1973.

The rising prices that resulted from a buoyant world demand accounted for a part of the total gain in U.S. export value. However, significant volume increases were also reported for several products.

As in the past, oilseeds and their products dominated the U.S. trade, making up half total agricultural sales to West Germany during fiscal 1973. Sharply increased value accounted for some of these products' expansion over fiscal 1972, with the value of oilcake and meal rising 73 percent and soybeans 36 percent. However, volume also was generally higher, with gains here ranging from 3 percent for soybeans to 21 percent for oilcake and meal.

U.S. sales of feedgrains jumped 32 percent in volume and 60 percent in value to total $133 million. All of the gain took place in U.S. corn, which accounted for almost 90 percent of the feedgrain figure and replaced in part German imports of French corn, recently in short supply.

Value of U.S. wheat sales to West Germany also soared last year, reaching $39.8 million, compared with $8 million in fiscal 1972. And that for cotton more than doubled to $28.5 million.

Besides oilseeds, grains, and cotton, major U.S. agricultural exports to West Germany include tobacco; fruits (fresh, dried, and canned); hides and skins; and nuts.

IN CONTRAST TO fiscal 1973's rising total, West Germany imports of U.S. farm products during both calendar 1971 and 1972 were virtually stagnant, totaling around $800 million. But at the same time, West Germany's total agricultural imports climbed 15 percent, reaching $8.4 billion and reducing the U.S. market share to 9.5 percent from the 11 percent of calendar 1971.

Behind this loss of market share was the increased competition from other members of the EC. West German imports from other members of the EC-6, for instance, climbed to $3.9 billion in 1972 from $2.6 billion in 1970 and $1.1 billion in 1962.

In the wake of this changing trade, the United States became an increasingly residual supplier for some commodities, with the trade centering around bulk items not fully attainable domestically or elsewhere in the EC.

The outlook thus varies widely for German imports of individual U.S. commodities.

Oilseeds and meals, free of inhibiting levies, have shown a steady and healthy growth trend, which is expected to continue.

Feedgrain imports, despite variable levies, have shown growth since 1969. But the outlook is not optimistic for further expansion in view of growing competition from France and in expanding German crop.

Foodgrain imports, although restricted by levies, fluctuate according to the domestic supply situation, and expectations are for declining requirements from the United States.

Rice and pulse imports have trended downward since 1969. Rice recovered in fiscal 1973 and further expansion is possible for U.S. sales, if prices and supplies permit.

Tobacco imports have been uneven for the past several years, and the outlook for expansion is in question.

Poultry imports continue to decline, although certain cooked and processed turkey parts are showing good growth.

Beef imports, although comparatively modest, have risen despite short U.S. supplies and sharply rising prices. Demand exceeds supply.

Hides and pelts imports rose dramatically in 1972. Supplies are short and demand is great.

Canned fruit and vegetable purchases gained last year following a decline that

began in 1970. However, unless more institutional-size products become available, the outlook is not promising.

Moreover, prospects are further clouded for these and other packaged products by new requirements for liquid and other packaged foods to go into effect the first of next year. These requirements call for liquid foods to be marketed in specific-size containers and other packaged foods to carry dual price labels, specifying both price per package and price per unit of measure.

Fresh fruit and vegetable imports, holding relatively steady, are attracting renewed attention, especially during the winter months. Continued transportation improvements, combined with reasonable pricing and supplies, will permit this market potential to be exploited.

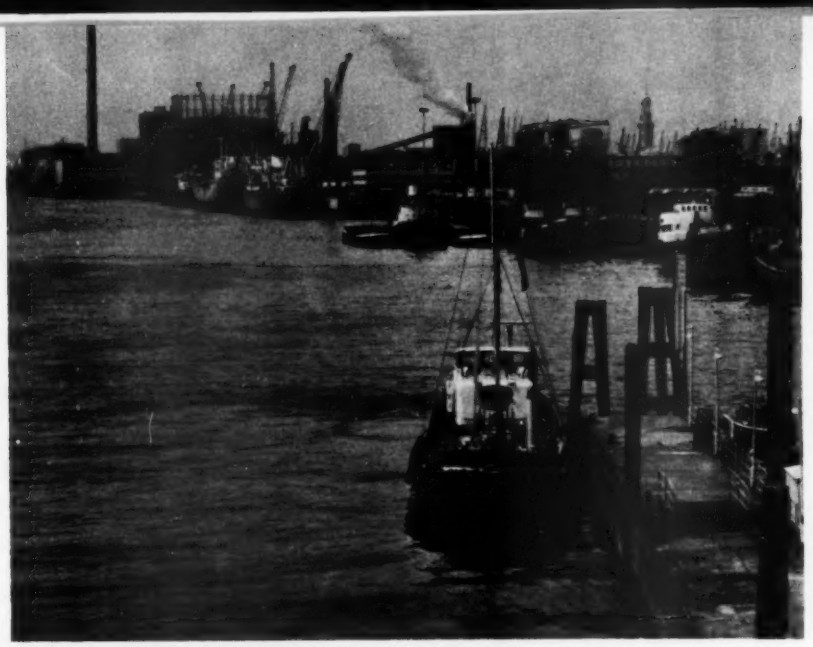
U.S. sales of **dried fruits and nuts** have had a history of steady growth. Although exports to West Germany in 1973 are suffering because of the short U.S. crop, medium- and long-term potential for expansion is good.

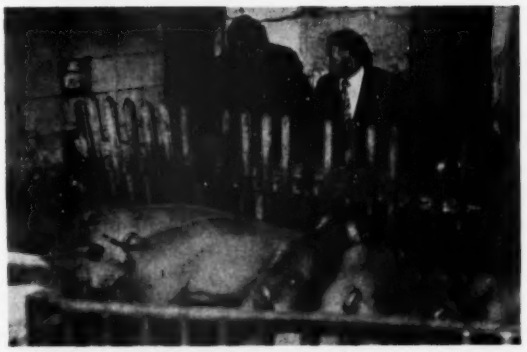
Honey sales also have suffered owing to lack of supplies, but possibilities are good.

Generally speaking, the greatest opportunities continue to lie in nonlevy bulk farm products, where the United States has the production capacity and efficiency advantages, and in the institutional and specialty food manufacturing fields, where the United States still holds some technological and production advantages.

For most consumer-ready foods, however, the United States is not again likely to become a major factor in the German market. The postwar development and modernization of domestic and other European food industries has forced most such products into a noncompetitive position, with a few exceptions being largely in the unique or luxury product area.

—Based on dispatches from
GEORGE A. PARKS
Former U.S. Agricultural Attaché, Bonn





Top to bottom: The busy Hamburg Port—next to Rotterdam the largest in Europe and a major entry point for U.S. agricultural products; meat counter of a German supermarket; Landrace hogs in the Schleswig-Holstein area; and feeding beet pulp to dairy bulls on a farm south of Hamburg. With consumer demand for meat strong and prices high, meat production takes priority in Germany and many of the feed ingredients are of U.S. origin.

Japan Develops New Protein Sources for Feed Rations

By BRUCE L. GREENSHIELDS
Foreign Demand and Competition Division
Economic Research Service

JAPAN, LARGELY dependent on imports for its supplies of feed-protein supplements is exploring the feasibility of developing new sources of feed protein. Recent shortages of anchovies in Peru's coastal waters—a major source of Japan's fishmeal and high selling prices of U.S. soybeans—virtually Japan's only source of beans for crushing—may have focused attention on this long-term scientific effort that could bring about the manufacture of a greater variety of feed-protein supplements.

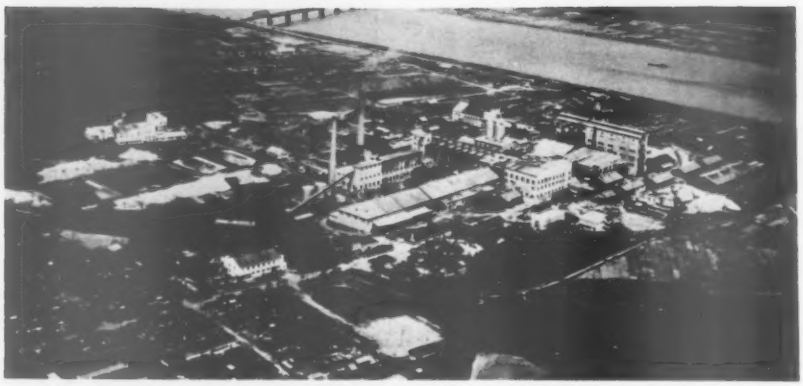
There are several new possible sources of protein, but the one showing the most promise is yeast. The crude-protein content of yeast varies depending on the yeast's variety and carbon source on which it is fed, but it averages between 55 and 60 percent (air-dried basis). The amino-acid content of yeast is comparable to that of fishmeal, except that yeast is deficient in methionine.

One remarkable quality of yeast fungi is that, given the proper environment, they can reproduce themselves rapidly by feeding on air and a carbon source. Potential sources of carbon are plentiful and include some industrial-waste products and even animal waste, utilization of which could help solve the disposal problem. One such source of carbon is *n*-paraffin, a petroleum derivative.

Technology to produce yeast from petroleum was introduced into Japan in the late 1960's through a contract between British Petroleum and Kyowa Hakko. Since then at least three other companies have produced yeast from *n*-paraffin on an experimental basis, including Kanegafuchi Chemical and Dainippon Ink and Chemical.

Japan's Ministry of Agriculture and Forestry began a 5-year study in 1969

Continued on page 16



This plant in Akita, Japan, produces 10,000 metric tons of yeast annually.

Japanese Consumers Say "No" To Petroleum Protein Manufacturers

Reports from Japan indicate nearly everyone was ready for the appearance on the market of petroleum protein as an ingredient in compounded feed except the ultimate consumer.

Several universities, chemical companies, and other institutions had studied the process by which the protein is "manufactured" on a petroleum substrate, tested the finished product, and written up the results of their investigations.

These were turned over to the Japanese Ministry of Health and Welfare (MHW), which, in December 1972, declared the protein safe to use in animal feeds. And the Ministry of Agriculture and Forestry (MAF) was prepared to issue official standards for the manufacture of petroprotein in early 1973.

But Japanese consumers turned thumbs down before they were released and in short order things ground to a halt. Organizing into a Liaison Council to Demand a Ban on Petroleum Protein, they said that MHW should have generated its own test data to determine the safety of the product, rather than to use that supplied by private industry.

MHW restudied its position, ruled it had no authority in the matter.

The Food Sanitation Law, MHW said, cannot be used to ban petroprotein because it is not a food. Hence, the Ministry said, MHW can neither approve nor disapprove its use in feeds.

MAF also said it had no authority to make a ruling. The law on the improvement of feedstuffs, it said, authorizes MAF to regulate only the level of foreign matter and the nutritional value of feed. It did not cover the possibility of hazard to humans, MAF said.

Although these rulings seemed to give a green light to the production of petroprotein, the companies announced cancellation of production plans—at least for the time being—because it was, they said, "socially necessary" to gain the understanding of consumers before going into commercial production.

At this point the two Ministries issued a statement saying they would further test the petroprotein and not approve its use until the Ministries were sure of its safety.

So, temporarily, at least, the use of petroprotein by the commercial feed industry has been stopped. Consumers claim a great victory, but their success may be short lived.

In announcing its joint research program with MHW, MAF pointed out the shortage in the world's feed protein supply, and emphasized that petroproteins are already being used in Great Britain and France.

The manufacturers still stress petroprotein is safe to use in feed rations, and one firm plans to use existing technology to produce petroprotein for use in products not related to food.

Yugoslav Agri-Leaders Study U.S. Farm Production Techniques From Maryland to California

A 15-MAN DELEGATION of leading Yugoslav agricultural officials visited the United States June 10-24 to examine U.S. farm production methods and machinery, vegetable and fruit packing techniques and equipment, seed-growing operations, university experimental plots, and working farms. The delegation was here looking for technological equipment and ideas which could be used in Yugoslavia.

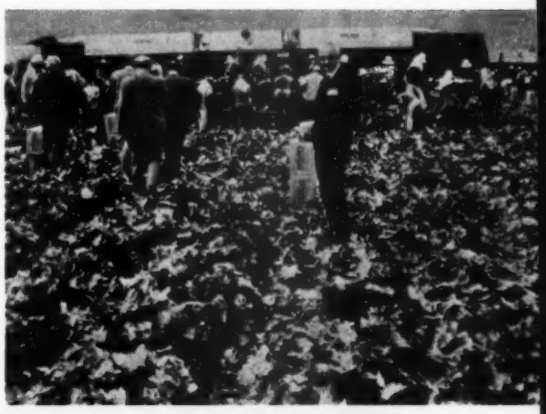
After visiting dairy farms on the Eastern Shore of Maryland, the group enplaned for California. There its members visited vegetable fields, packing sheds, and processing plants in the rich Salinas and San Joaquin Valleys, in addition to research facilities of Del Monte Corp., and nearby beef and dairy herds. On the return trip the group saw cattle ranches and feedlots in Colorado; and some of the leading livestock, corn, soybean, and other grain-producing farms in Indiana, Illinois, and Iowa. In these same States they also visited the Deere & Co. farm equipment plants in Moline, Ill., and Waterloo, Iowa, the Purdue University swine and dairy farms, its agronomy research center, and the De Kalb wheat research plots, as well as numerous other farms and facilities.

Food Machinery International of Chicago, one of the California hosts of the delegation, and Deere & Co. have had several years of trade relations with Yugoslavia. Deere & Co. has a sales agency there, while the food machinery firm recently did a feasibility and marketing study for Yugoslavia, and provided machinery and technology for the development of its tomato packing industry.

The United States has also been a large supplier to Yugoslavia of dairy cattle and semen. In 1971, Yugoslavia imported 805 U.S. Holsteins, mostly bred heifers. The following year it bought 193 head and sales in 1973 currently total between 400 and 500.

While sales figures are not available because the delegation dealt privately with individual companies, it is likely the recent trip resulted in purchases of U.S. livestock and semen, machinery, and technology.

The Yugoslav delegation expressed great interest in California iceberg lettuce because this vegetable is not generally known in Yugoslavia. Jordan Blagevski, of the Yugoslav Center for Agriculture and Forestry (center, below), is shown in a Salinas lettuce field with delegation members.



Above, Yugoslav delegation examines dairy herd at Kinglea Farms, Churchil, Maryland. Top left, Dr. Branko Stancil (left center), talks with Y.D. Hance, Maryland Secretary of Agriculture, while Drs. Zivorad Teofilovic (left) and Ratimes Fuks (right) look on. Bottom left, Nikola Dragin (left) discusses U.S. lettuce-picking methods with Nikole Gavaranic in a Salinas field.

U.S. Cotton Exports High in Response to Demand

Continued from page 4

lution of the possible duplication, total U.S. exports in 1973-74 are estimated at 5.9 million bales.

The difference between foreign production and consumption, called the "residual," provides a rough estimate of foreign demand for U.S. cotton. In 1972-73, U.S. exports exceeded the foreign residual by some 2 million bales, indicating that stocks were increased. Estimates for 1973-74, based on available statistics for supply/distribution, suggest that U.S. exports will exceed the foreign residual by 700,000 bales. Thus, the cumulative total for the 3 years since 1971-72 is around 5 million bales, a firm indication of soaring demand for U.S. cotton.

Many factors are contributing to the high demand for U.S. cotton. Among these are dollar devaluation, which has improved cotton's competitive position against manmade fibers in Western Europe and Japan, the large supply of dollars that foreign countries want to convert into commodities, and competitive pricing of U.S. cotton.

Most important, however, is U.S. exporters' reputation for honoring export contracts on a rising market, especially considering that some other major exporting countries have refused to deliver cotton against existing contracts, while others insist on renegotiating contracts in view of higher prices.

Two factors in the present world cotton situation are worthy of special attention. One is the failure of foreign cotton acreage to increase in 1973-74—somewhat surprising in view of sharply higher prices during the previous year. Past trends have shown a high correlation between cotton prices and acreage the following year.

Because of the substantial, ongoing rise in foreign cotton consumption, the outlook for U.S. cotton exports in coming years is indeed bright, provided that producing countries do not boost output appreciably. Although trends cannot be established in a single year, current forces that could work against future major increases in foreign cotton acreage include competition for land from other crops, rising cotton production costs, and shortage of workers for labor-intensive cotton crops.

A second significant factor is the very high level of stocks in foreign countries, especially in foreign non-Communist importing countries that are major markets for U.S. cotton. If 1973-74 U.S. exports again exceed the foreign residual, the specific areas where stocks increase will be significant for U.S. trade. If importing countries add the increase to their already high stock level, this will tend to be a supporting factor in the market. If foreign exporting countries increase supplies they may become more aggressive sellers in competition with U.S. exports.

COTTON: WORLD STOCKS, PRODUCTION, SUPPLY, CONSUMPTION, AND EXPORTS

Item and area	August-July 1972-73[1]	August-July 1973-74[2]	Change 1973-74 from 1972-73
	Mil. bale[3]	Mil. bale[3]	Mil. bale[3]
Beginning Stocks			
United States	3.4	3.9	+0.5
Foreign non-Communist			
Exporting	6.9	6.9	0
Importing	7.0	8.0	+1.0
Communist	3.4	3.4	0
Foreign Total	17.3	18.3	+1.0
World Total	20.7	22.2	+1.5
Production			
United States	13.7	13.0	− .7
Foreign non-Communist	27.8	27.2	− .6
Communist	17.8	18.3	+ .5
Foreign Total	45.6	45.5	− .1
World Total	59.3	58.5	− .8
Supply			
United States	17.1	16.9	− .2
Foreign non-Communist	41.7	42.1	+ .4
Communist	21.2	21.7	+ .5
Foreign Total	62.9	63.8	+ .9
World Total	80.0	80.7	+ .7
Consumption			
United States	7.8	7.3	− .5
Foreign non-Communist			
Exporting	9.3	9.7	+ .4
Importing	19.5	20.2	+ .7
Communist	20.1	20.8	+ .7
Foreign Total	48.9	50.7	+1.8
World Total	56.7	58.0	+1.3
Exports			
United States	5.3	5.9	+ .6
Foreign non-Communist	12.9	12.0	− .9
Communist	3.0	2.8	− .2
Foreign Total	15.9	14.8	−1.1
World Total	21.2	20.7	− .5
Foreign Residual	3.3	5.2	−
U.S. Exports Compared to Foreign Residual	+2.0	+ .7	−
Beginning Stocks as Months of oCnsumption	*months*	*months*	*months*
World Total	4.4	4.6	+ .2
Supply as Percentage of Consumption	*percent*	*percent*	*percent*
World Total	141	139	− 2

[1] Estimate. [2] Forecast. [3] 480 lb net.

U.S. Soybean Sales

Continued from page 5

United States imposed export control measures on soybeans, cottonseed, and their products in late June and early July. This action moderated soybean and soybean meal prices in August to an average $9.08 per bushel for beans and $281.22 per ton for meal.

Soybean oil and cottonseed oil prices, however, continued to soar, with August prices averaging 33.5 cents a pound for soybean oil and 32 cents for cottonseed oil. Powering these prices to high levels were increases in domestic use of both oils, expanding cottonseed oil exports, dwindling U.S. soybean oil stocks, and the still high price of soybeans.

CROPS AND MARKETS

COTTON

Japan's Raw Cotton Imports Set Postwar Record

Japan's imports of raw cotton during the 1972-73 season (August-July) reached 3.8 million bales (480 lb. net), a postwar record and an increase of over 9 percent from last season's total of 3.5 million bales. The United States, which remained Japan's largest single supplier, provided 967,000 bales, or 25 percent of the market. Other traditionally large suppliers were the Soviet Union with 589,000 bales and Mexico with 467,000 bales. Japan also imports raw cotton from over 30 other countries. Increasingly important among these are: Pakistan, El Salvador, Brazil, Nicaragua, Guatemala, Egypt, and India. Together in 1972, these seven countries provided just over 1.5 million bales, or nearly 40 percent of Japan's cotton imports.

These increases and attempts to diversify sources of supply come at a time when Japan is simultaneously supplying a vigorous textile industry and importing record levels of textiles. Despite such a mixed picture, mills are in general agreement on the likelihood of maintaining or modestly increasing the current level of raw cotton consumption, estimated at 3.5 million bales in 1972-73. Contributing to this are the rising demand for textiles and increases in per capita consumption of cotton textiles in Japan.

Factors which have helped the United States in maintaining its position as largest single supplier have been: Dollar devaluation and the large supply of dollars available to Japanese importers, competitive U.S. prices, the range of U.S. qualities offered for export coupled with Japan's familiarity with U.S. cotton and cotton trade, and promotion activities conducted by the Cotton Council International and the International Institute for Cotton.

FRUIT, NUTS, AND VEGETABLES

Portugal's 1973 Tomato Crop, Paste Output Up 20 Percent

Portugal's 1973 processing tomato crop is currently estimated at 1 million metric tons, up 20 percent from the 1972 crop. The estimated production of tomato paste—by far the leading tomato product produced in Portugal—is placed at about 181,000 metric tons, also up 20 percent from last year.

Processors are paying growers the equivalent of about US$23.60 per short ton for first-quality tomatoes and the equivalent of approximately US$17.70 per short ton for second-quality tomatoes. In 1972, 40,823 metric tons of tomato paste were exported to the United States, representing 27 percent of Portugal's tomato paste exports, marking the first time in recent history the United States topped the United Kingdom as Portugal's No. 1 export market.

Shipments to Canada, another important market for Portuguese paste, increased 22 percent in 1972, rising from 13,340 metric tons in 1971 to 16,266 metric tons.

According to the trade, exporters anticipate larger sales of tomato paste to the United States this year despite higher f.o.b. prices.

During the first 5 months of 1973 (January-May), Portugal's tomato paste exports to the United States rose 28 percent over the volume of the comparable period a year earlier. Currently, f.o.b. prices are about 20.2 U.S. cents per pound, as compared with 16.3 U.S. cents per pound last year.

Floods Hit Mexican Fruit And Vegetable Areas

Key Mexican strawberry and asparagus producing areas in the States of Guanajuato and Michoacán (Irapuato area), located northwest of Mexico City, were recently hit by floods. However, according to the trade, little long-term damage is expected.

At the time of the flood, strawberry plantings were just beginning with the main plantings to take place in September. No more than 1,200 acres are estimated to have been affected by the flooding and these will probably be replanted as soon as the fields are sufficiently dry.

In the case of asparagus, trade reports indicate that only about 200 acres of the estimated total of 2,400-3,700 acres were actually destroyed. Harvesting of the fresh market crop has been reduced to about half of normal. A major problem at the moment is farmers' inability to control weeds because of the prolonged rains over the past several weeks.

Late June rains reduced Mexico's 1973 tomato processing crop by 8,000 metric tons and substantially lowered the quality of tomatoes remaining in the field. In general, this year's overall pack of processed tomato products is expected to be slightly less than last year's. The 1973 crop of processing tomatoes is currently estimated at 90,000 metric tons, about 10 percent less than a year earlier.

Because of high international prices, an increase of approximately 10 percent is expected in the output of tomato paste. Grower contract prices in the Bajio area averaged about US$27.60 per short ton at the plant. In Sinaloa, the contract price was equivalent to about US$21.40 per short ton, which included a production tax of US$2.47 per ton.

German Import Tender For Cut Flowers

West Germany has announced an import tender allowing shipments of fresh cut flowers other than tulips, cut hyacinths, cut narcissus, orchids, and anthuria from the United States, and a number of other countries.

Applications for import licenses will be accepted until an undisclosed value limit is reached but not later than May 13, 1974. Licenses issued will be valid until May 15, 1974, unless

the value limit is reached or an import embargo established. If an embargo is established, issued licenses become invalid 3 days after publication of the action in the Bundesanzeiger, the Government's official register.

Flowers must meet EC quality standards and existing phytosanitary requirements. The first day of customs clearance is October 1, 1973.

EC Extends Export Subsidy for Grapes

The EC Commission, effective August 31, 1973, extended to all destinations the export subsidy of 4 units of account per 100 kilograms for field grown table grapes of quality classes Extra, I, and II. Previously, the subsidy applied only to grapes shipped to Austria.

Japanese Import Quota for Concentrated Orange Juice

On August 24, the Government of Japan officially announced an import quota for 1,000 metric tons of concentrated orange juice (based on a 5-to-1 concentrate) for the period April 1, 1973, to March 31, 1974. This is twice the level authorized for the 1972-73 period.

Agricultural cooperatives will receive 57.5 percent of the quota and the remainder will go to commercial bottling companies.

GRAINS, FEEDS, PULSES, AND SEEDS

Grain Exports and Transportation Trends: Week Ending September 7

Weekly grain inspections for export and grain moving in inland transportation for the week of September 7 and the previous week were:

Item	Week ending Sept. 7	Previous week	Weekly average, August	Weekly average, fourth quarter
	1,000 metric tons	*1,000 metric tons*	*1,000 metric tons*	*1,000 metric tons*
Weekly inspections, for export:				
Wheat	762	966	805	755
Feedgrains	622	1,057	984	738
Soybeans	30	56	63	238
Total	1,414	2,079	1,852	1,731
Inland transportation:				
Barge shipments of grain	(1)	479	482	376
	Number	*Number*	*Number*	*Number*
Railcar loadings of grain	29,648	32,438	34,136	30,769

[1] Not available.

EC To Import Less Hard Wheat

EC imports of hard-type wheat, excluding Durum, may be somewhat smaller in 1973-74. The expected decline results from a better quality locally-produced crop and high world prices that have increased the percentage difference between the price of domestic and third country wheat to users in the European Community.

Indian Grain Prospects Good

As of early September, the general performance of the monsoon continued good throughout most of India. Excess rain in some areas of the country has caused extended delays in farming operations, but overall flood damage to India's total fall crops does not appear to have been especially abnormal. The current outlook for fall-harvested crops, including grains, continues generally good.

Rotterdam Grain Prices and Levies

Current offer prices for imported grain at Rotterdam, the Netherlands, compared with a week earlier and a year ago:

Item	Sept. 18	Change from previous week	A year ago
	Dol. per bu.	*Cents per bu.*	*Dol. per bu.*
Wheat:			
Canadian No. 1 CWRS-14	6.33	+19	2.52
USSR SKS-14	(1)	(1)	(1)
Australian FAQ [2]	(1)	(1)	2.18
U.S. No. 2 Dark Northern Spring:			
14 percent	5.92	+10	2.33
15 percent	(1)	(1)	2.42
U.S. No. 2 Hard Winter:			
12 percent	5.84	+ 2	2.25
No. 3 Hard Amber Durum	8.77	+ 5	2.28
Argentine	(1)	(1)	(1)
U.S. No. 2 Soft Red Winter	(1)	(1)	(1)
Feedgrains:			
U.S. No. 3 Yellow corn	3.02	− 9	1.65
Argentine Plate corn	3.33	+ 2	1.93
U.S. No. 2 sorghum	3.13	−17	1.67
Argentine-Granifero sorghum	3.10	−18	1.69
U.S. No. 3 Feed barley	2.97	− 8	1.52
Soybeans: [3]			
U.S. No. 2 Yellow	6.93	−47	3.59
EC import levies:			
Wheat [4]	[5] 0	0	1.32
Corn [6]	[5] .30	− 1	1.06
Sorghum [6]	[5] .31	− 4	1.02

[1] Not quoted. [2] Basis c.i.f. Tilbury, England. [3] New crop. [4] Durum has a separate levy. [5] Levies applying in original six EC member countries. Levies in U.K., Denmark, and Ireland are adjusted according to transitional arrangements. [6] Italian levies are 18 cents a bu. lower than those of other EC countries.

Note: Price basis 30- to 60-day delivery.

TOBACCO

Syria's 1972 Tobacco Crop Set at 28.7 Million Pounds

Syria's official estimate of its 1972 tobacco crop, mostly oriental type, has been set at 28.7 million pounds, up 8.3 percent from the 1971 crop of 26.5 million pounds. The increase was attributed to favorable weather and growing conditions during 1972.

The 1973 crop is expected to be at least 10 percent less than the 1972 crop because of reduced acreage, caused by drought conditions at planting.

The United States took 2.6 million pounds, or 32 percent,

of the 8 million pounds of leaf tobacco exported by Syria in 1972. In return the United States supplied Syria with 2.5 million pounds, or 79 percent, of the 3.1 million pounds of leaf imported last year.

FATS, OILS, AND OILSEEDS

Major Importing Countries Increase Oilseed and Meal Imports by 7 Percent

Net imports of oilseeds and meals into six major importing countries (Japan, West Germany, France, Denmark, the United Kingdom, and Spain) during the October 1972-June 1973 period totaled 12.1 million metric tons (soybean-meal basis), 7 percent above the same 9 months in 1971-72. The increase—738,000 tons—was equivalent to the protein fraction of 34 million bushels of soybeans.

Imports of soybeans and meal only, at 7.9 million tons, rose 923,000 tons, equivalent to the protein fraction of 43 million bushels, and accounted for two-thirds of the total against 62 percent below the same month in 1972.

On a monthly basis, aggregate imports into these six countries peaked in January 1973 at 1.5 million tons—15 percent above January 1972—and declined 1.1 million in June—13 percent of the total in the 1971-72 period.

Oilseed and meal imports during the October-June period of 1972-73, compared with those of 1971-72, were:

Country and commodity	1971-72	1972-73	Change
	1,000 metric tons	1,000 metric tons	Percent
Japan	2,685	3,096	+15
West Germany	3,714	3,535	−5
France	1,622	1,926	+19
Denmark	801	808	+1
United Kingdom	1,322	1,547	+17
Spain	1,196	1,166	−3
Total	11,340	12,078	+7
Soybean	7,000	7,923	+13
Fish	1,276	713	−94
Peanut	905	1,075	+19
Cotton	553	642	+16
Other	1,606	1,725	+7
Total	11,340	12,078	+7

Dominican Republic's Oil Imports To Continue Upward

The Dominican Republic's deficit of vegetable oils in 1974 could reach 23,600 metric tons, according to the Secretariat of Agriculture. The Republic's consumption of oils reportedly increases at least 12 percent annually.

The principal vegetable oil consumed in the country is peanut oil, followed by soybean and coconut oils. Currently estimated at 26,000 tons, 1974 peanut oil production is expected to be 12,000 tons less than the demand. The deficit will be made up by imports.

Because of the Dominican Republic's shortfall, there is also a need to import peanuts for meal manufacture. Imports of shelled peanuts are expected to reach 15,000 tons in 1974.

Consumption of margarine and shortenings is also on the increase, boosting the demand for their primary ingredients—soybean and cottonseed oils. Because the domestic production of soybeans and cottonseed is insignificant, import requirements in 1974 are estimated at 12,000 tons.

SUGAR AND TROPICAL PRODUCTS

Global Export Quotas Set for Black Tea

The Sixth Session of the Sub-Group of Exporters of the Food and Agriculture Organization's Intergovernmental Group on Tea was held in Rome, July 2-4, 1973. The meeting reviewed the current tea situation and short-term outlook and set black tea export quotas for the 1973-74 and 1974-75 (April-March) quota years at 657,000 and 681,000 metric tons, respectively. In the past, the export quota allocations have been so liberal that they have had no appreciable impact on tea prices.

The new quotas, in thousands of metric tons, are as follows:

Country	1973-74	1974-75
India	217.8	224.3
Sri Lanka	214.2	220.0
Kenya	56.0	62.9
Indonesia	43.2	44.2
Argentina	28.8	29.0
Bangladesh	26.0	27.0
Uganda	23.7	25.1
Malawi	23.2	23.1
Turkey	20.0	20.0
Mozambique	18.8	20.0
Zaire	14.1	15.3
Tanzania	10.2	10.2
Papua & New Guinea	5.0	5.0
Mauritius	4.8	5.4
Burundi	.6	.8
Total	706.4	732.3
Less 7 percent for expected shortfalls	49.4	51.3
Global quota	657.0	681.0

Philippines Sells Sugar to New Customer

For the first time since 1961, the Philippines has sold sugar on the world market to a country other than the United States. Handled by a New York trading company, the 60,000-ton shipment was to be made in August and September, although its destination was not announced.

The Philippines 1972-73 sugar outturn has exceeded expectations and it may have sugar to sell on the world market again this marketing year. With 6 weeks of the season still to go, centrifugal sugar production had reached 2,436,000 short tons, commercial weight, on July 22. This was the estimate that had previously been given for the entire year. As a result of the good showing, the year's estimated output was revised upward to 2,489,000 tons, 24 percent above last year's poor crop of 2,003,000 tons and 9 percent above the 1970-71 record of 2,270,000 tons. Good weather gets most of the credit for the larger 1972-73 crop since harvested area increased only slightly.

Although no official forecast has been made for the 1973-74 crop, indications are it may not reach the 1972-73 level. Yield is expected to be down, offsetting an acreage increase that might otherwise have boosted output.

U.S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C. 20250

PENALTY FOR PRIVATE USE, $300
OFFICIAL BUSINESS

If you no longer wish to receive this publication, please check here ☐ and return this sheet, or addressed portion of envelope in which publication was mailed.

If your address should be changed ☐ PRINT or TYPE the new address, including ZIP CODE, and return the whole sheet to:

Foreign Agricultural Service, Rm. 5918
U.S. Department of Agriculture
Washington, D.C. 20250

FOREIGN AGRICULTURE

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF
AGRICULTURE
AGR 101

U.S.MAIL

First Class

FA UNIVE300UB R 1
UNIVERSITY MICROFILMS
JOY REED SUPVR PERIODICALS
300 N ZEEB RD
ANN ARBOR MI 48106

Japan Develops New Protein Sources for Feed

Continued from page 10

of samples of hydrocarbon yeast produced by four companies. The yeast was fortified with synthetic methionine and fed to White Leghorn chickens in a ration having 15 percent of the formula as a substitute for the soybean meal and fishmeal used in the control-group diet. Results of the experiment were published after three generations of chickens were observed.

In comparing the control group with the experimental group, little difference was observed in egg production, feed intake, and conversion during the laying period, average egg weight, body weight at 36 weeks of age, fertility and hatchability of fertile eggs, and viability. Histopathological examinations revealed no deformities.

The only significant differences were that the growth rate of chicks on the yeast diet was slightly slower than that of those on the control diet, and chicks on the yeast diet reached sexual maturity 3 days later than those on the control diet. The taste and appearance of eggs produced by both groups were found to be the same.

WHEN RESULTS of this experiment were released in late 1972, Japan's Ministry of Health and Welfare declared hydrocarbon yeast safe to use as feed on a large scale. At least two companies —Kanegafuchi Chemical and Dainippon Ink and Chemical—proceeded to implement large-scale production plans. These plans, however, were suspended in the spring of 1973 because of consumer reaction to the manner in which the experiment was handled.

Because it was not conducted independently of the potential yeast producers—the manufacturers supplied the sample feed instead of having the testing agency formulate it—the consumers groups said the validity of the test was doubtful. Consumers also expressed concern about possible genetic effects on humans who consume products of animals fed hydrocarbon yeast. There is, for example, an oil residual in hydrocarbon yeast which—while less than 1 percent—has not been proved to be harmless.

Nevertheless, Japan is exporting the technology of how to produce hydrocarbon yeast—to Romania through a contract with Dainippon Ink and Chemical, and to Italy by way of a contract with Kanegafuchi Chemical. The success or failure of hydrocarbon yeast in these countries and elsewhere (small quantities are being produced in the Soviet Union, England, and France) may be a factor in whether consumer acceptance is obtained in Japan.

Because hydrocarbon yeast is not being produced commercially in Japan, price data are not available. However, a rough estimation of the cost of inputs to produce it indicates that production costs would be substantially higher than those of fishmeal and soybean meal.

Meanwhile yeast grown on carbon sources other than petroleum *n*-paraffin has been used in swine and poultry feeds in Japan for over 10 years. One such carbon source used is sulfite liquor, a waste product of the sulfite process of dissolving wood pulp for paper manufacture. Three paper companies in Japan — Jujo, Sanyo-Kokusaku, and Kojin—together produce about 25,000 metric tons of yeast annually. It is fed in concentrations of from 1 to 2 percent in swine and poultry feeds.

The sulfite process is slowly being replaced by a new pulping process, however, and the technology for using its waste materials as substrate for growing yeast has not yet been developed.

THE PRICE of sulfite-liquid yeast in 1972 was comparable to that of imported Peruvian fishmeal, but some adjustment could be made in the price if imputed costs of disposing of the waste liquids were transferred to the price of the primary product—in this case paper.

Another carbon source used for producing yeast in Japan is molasses. About 15,000 metric tons of yeast grown on this substrate is produced annually by Kanegafuchi Chemical.

Other possible carbon sources for yeast fermentation exist. Some examples are methanol, hydrolized cereal straw, potato starch wastes, and even bagasse. Also, yeasts are not limited to feed-protein supplements. They may be consumed directly as human food or used in foods as a protein supplement.

There is little danger that yeast will displace any of the traditional feed protein supplements. But with the phenomenon of increasing world demand for livestock products, yeast may eventually become more important as a feed-protein supplement in compound feeds, and be used in larger amounts along with traditional protein sources.

☆ U. S. GOVERNMENT PRINTING OFFICE: 1973 541-560/11